

Exercise 3: Button Blink

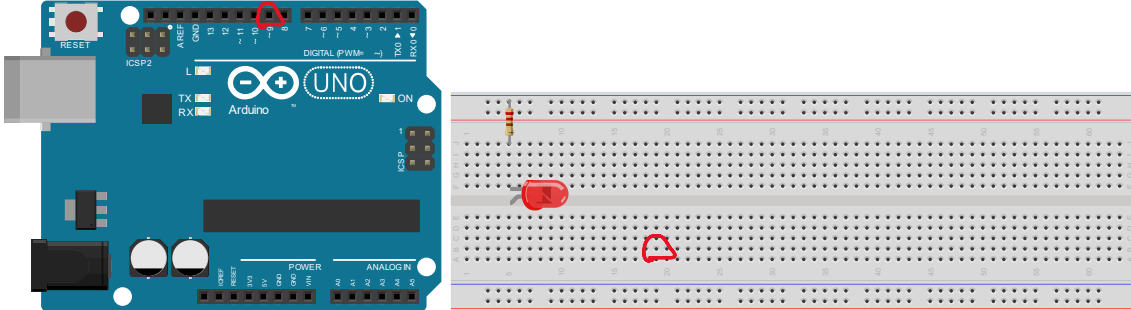
Purpose: Extend Exercise 2 with an external pushbutton.

Instructions

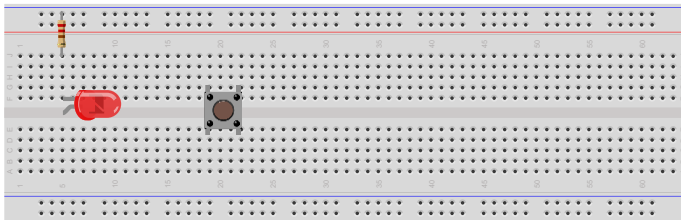
1. Unplug your Arduino Uno from the PC.
2. Locate a pushbutton from your kit.



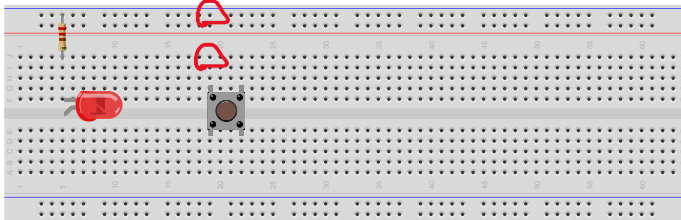
3. Connect **one** coloured wire to **pin 9** on the Arduino Uno to the breadboard.



4. Connect the pushbutton across the center of the board.



5. Connect the pushbutton to ground with a black wire.



6. Plug in your Arduino Uno.
7. Navigate to LEDPushbutton.cpp and copy the contents to the Arduino IDE text area.
Open the file → Select All (CTRL+A) → Copy (CTRL+C).
Open Arduino IDE Window → Select Text Area → Paste (CTRL+V).
8. Verify and upload the sketch to the Arduino Uno.
9. Press the pushbutton and confirm LED “L” and the external LED light up.
10. Now use a different program to automate Exercise 1!
11. Navigate to LEDButtonCycle.cpp and copy the contents to the Arduino IDE text area.
Open the file → Select All (CTRL+A) → Copy (CTRL+C).
Open Arduino IDE Window → Select Text Area → Paste (CTRL+V).
12. Verify and upload the sketch to the Arduino Uno.
13. Verify that each button press changes the blink frequency based on the list below.

Exercise 3: Button Blink



- a. Initialized: 1Hz.
(500 ms between on/off)
- b. Button press 1: 2.5Hz
(200 ms between on/off)
- c. Button press 2: 5Hz
(100 ms between on/off)
- d. Button press 3: 10Hz
(50 ms between on/off)
- e. Button press 4: 0.5Hz
(1000 ms between on/off)
- f. Button press 5: Step a.
(Loops back around)